



# SPP3095

## P-Channel Enhancement Mode MOSFET

### DESCRIPTION

The SPP3095 is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology.

This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, such as DC/DC converter and Desktop computer power management.

The package is universally preferred for commercial industrial surface mount applications

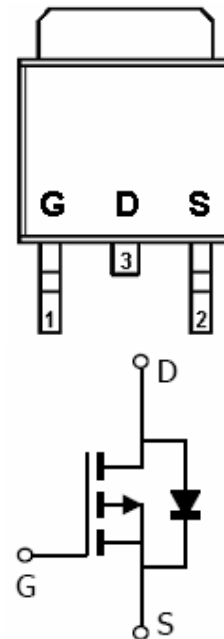
### APPLICATIONS

- Power Management in Desktop Computer
- DC/DC Converter
- LCD Display inverter

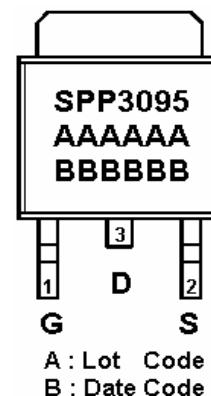
### FEATURES

- ◆ -30V/- 8A, $R_{DS(ON)}=100m\Omega@V_{GS}=-10V$
- ◆ -30V/- 6A, $R_{DS(ON)}=135m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low  $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ TO-252-2L package design

### PIN CONFIGURATION ( TO-252-2L )



### PART MARKING





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### PIN DESCRIPTION

Pin	Symbol	Description
1	G	Gate
2	S	Source
3	D	Drain

### ORDERING INFORMATION

Part Number	Package	Part Marking
SPP3095T252RG	TO-252-2L	SPP3095

※ Week Code : A ~ Z( 1 ~ 26 ) ; a ~ z( 27 ~ 52 )

※ SPP3095T252RG : Tape Reel ; Pb – Free

### ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V <sub>DSS</sub>	-30	V
Gate –Source Voltage		V <sub>GSS</sub>	±20	V
Continuous Drain Current(T <sub>J</sub> =150°C)	T <sub>A</sub> =25°C	I <sub>D</sub>	-12	A
	T <sub>A</sub> =70°C		-8	
Pulsed Drain Current		I <sub>DM</sub>	-20	A
Continuous Source Current(Diode Conduction)		I <sub>S</sub>	-15	A
Power Dissipation	T <sub>A</sub> =25°C	P <sub>D</sub>	40	W
	T <sub>A</sub> =70°C		20	
Operating Junction Temperature		T <sub>J</sub>	-55/150	°C
Storage Temperature Range		T <sub>STG</sub>	-55/150	°C
Thermal Resistance-Junction to Ambient		R <sub>θJA</sub>	105	°C/W



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### ELECTRICAL CHARACTERISTICS

(T<sub>A</sub>=25°C Unless otherwise noted)

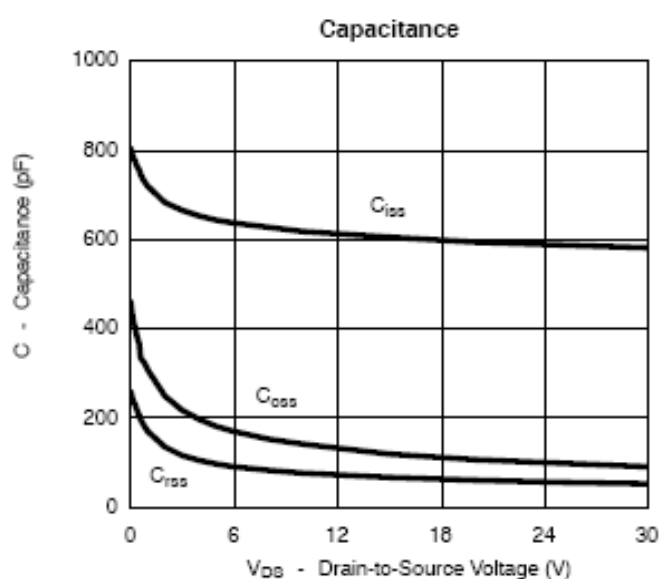
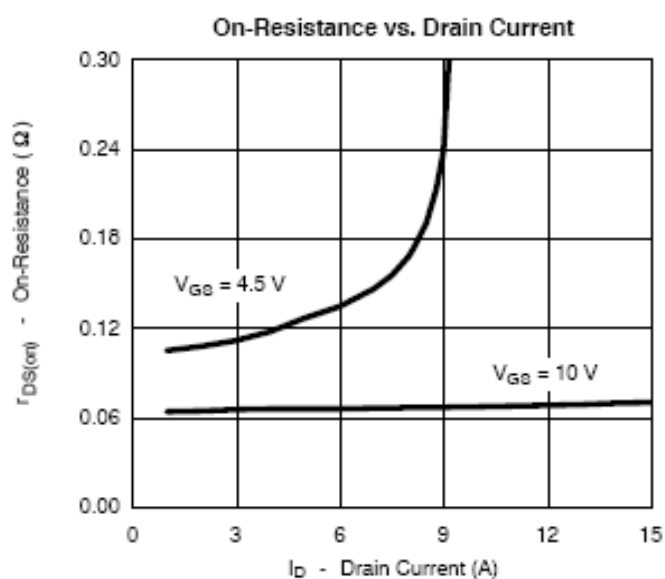
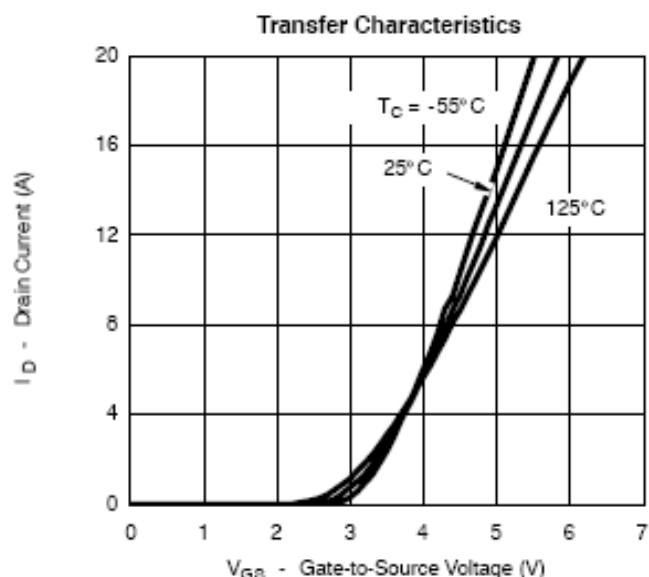
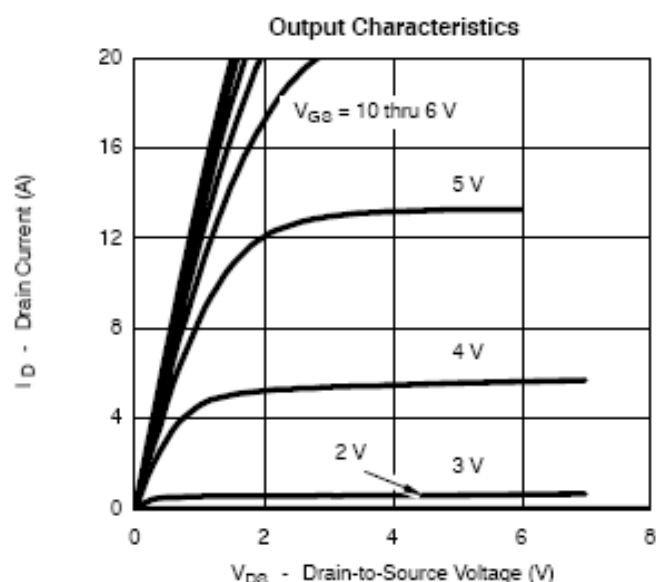
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-30			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250uA	-1.0		-3.0	
Gate Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V			-1	uA
		V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V T <sub>J</sub> =85°C			-5	
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-8A		0.083	0.100	Ω
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-6A		0.117	0.135	
Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-8A		8		S
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-2.5A, V <sub>GS</sub> =0V		-0.8	-1.2	V
<b>Dynamic</b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =-10V I <sub>D</sub> =-8A		5.8	10	nC
Gate-Source Charge	Q <sub>gs</sub>			0.8		
Gate-Drain Charge	Q <sub>gd</sub>			1.5		
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-15V, V <sub>GS</sub> =0V f=1MHz		226		pF
Output Capacitance	C <sub>oss</sub>			87		
Reverse Transfer Capacitance	C <sub>rss</sub>			19		
Turn-On Time	t <sub>d(on)</sub>	V <sub>DD</sub> =-15V, R <sub>L</sub> =15Ω I <sub>D</sub> =-1.0A, V <sub>GEN</sub> =-10V R <sub>G</sub> =6Ω		9	20	ns
	t <sub>r</sub>			9	20	
Turn-Off Time	t <sub>d(off)</sub>			18	35	
	t <sub>f</sub>			6	20	



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### TYPICAL CHARACTERISTICS

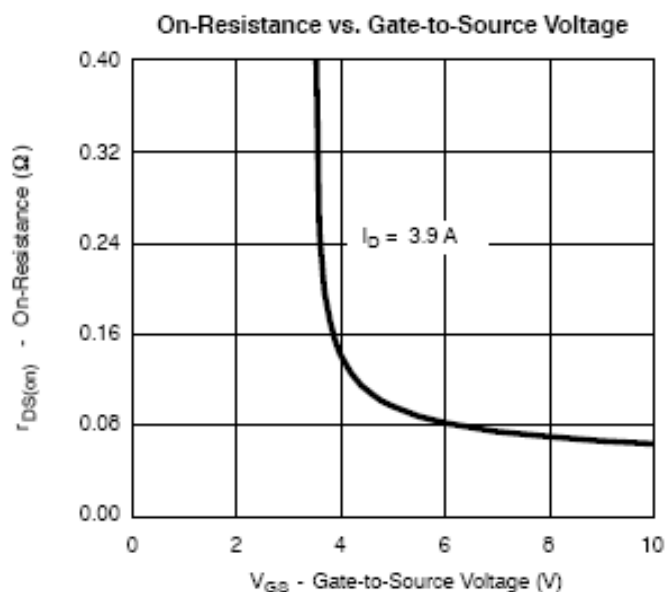
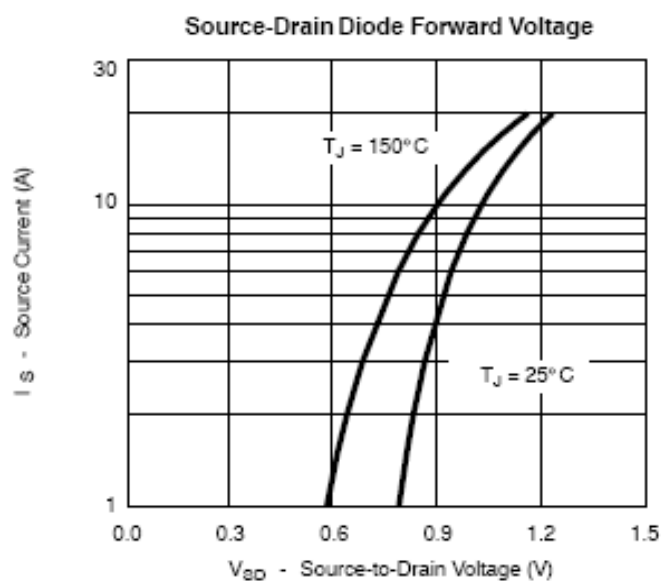
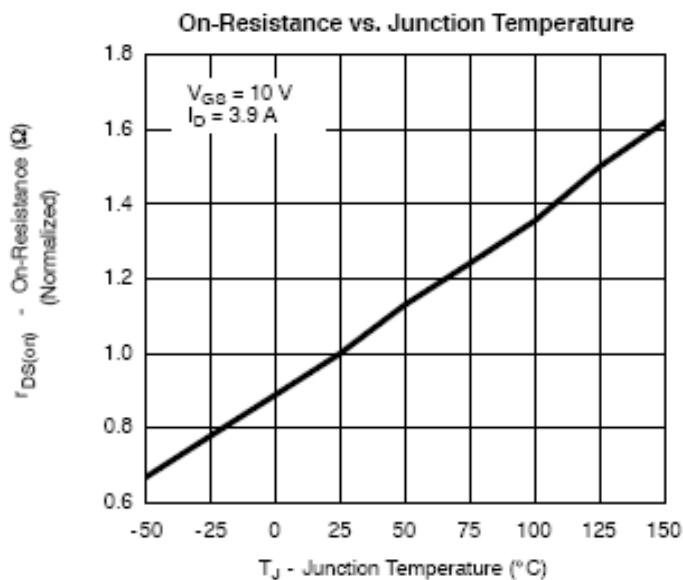
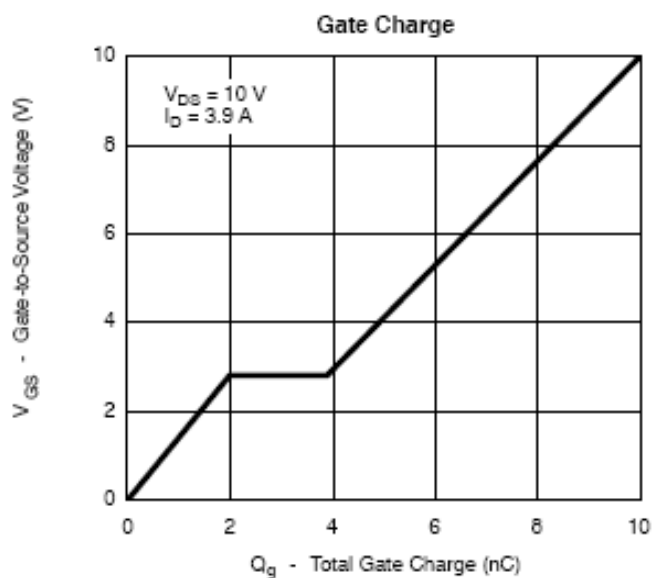




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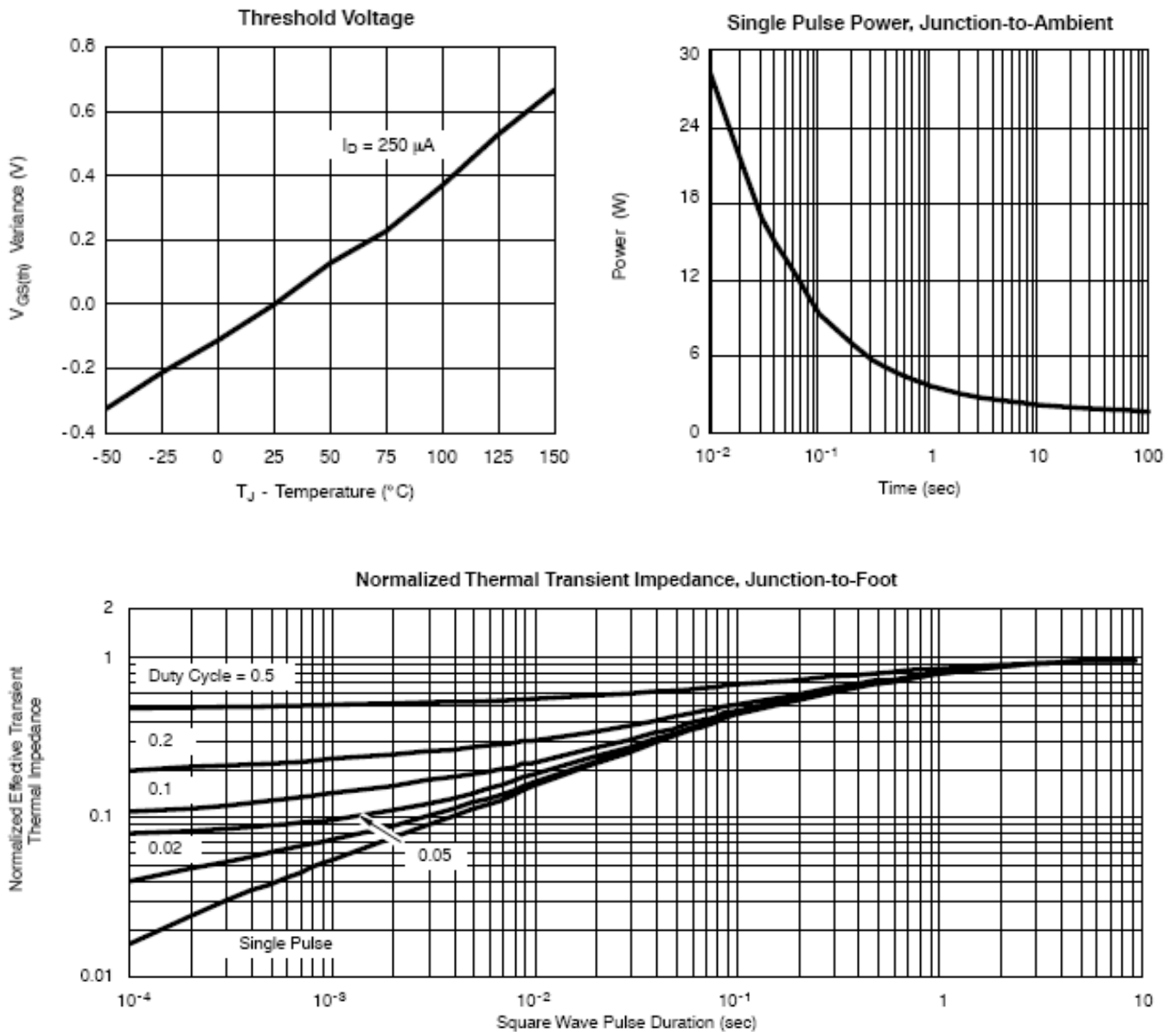




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### TYPICAL CHARACTERISTICS

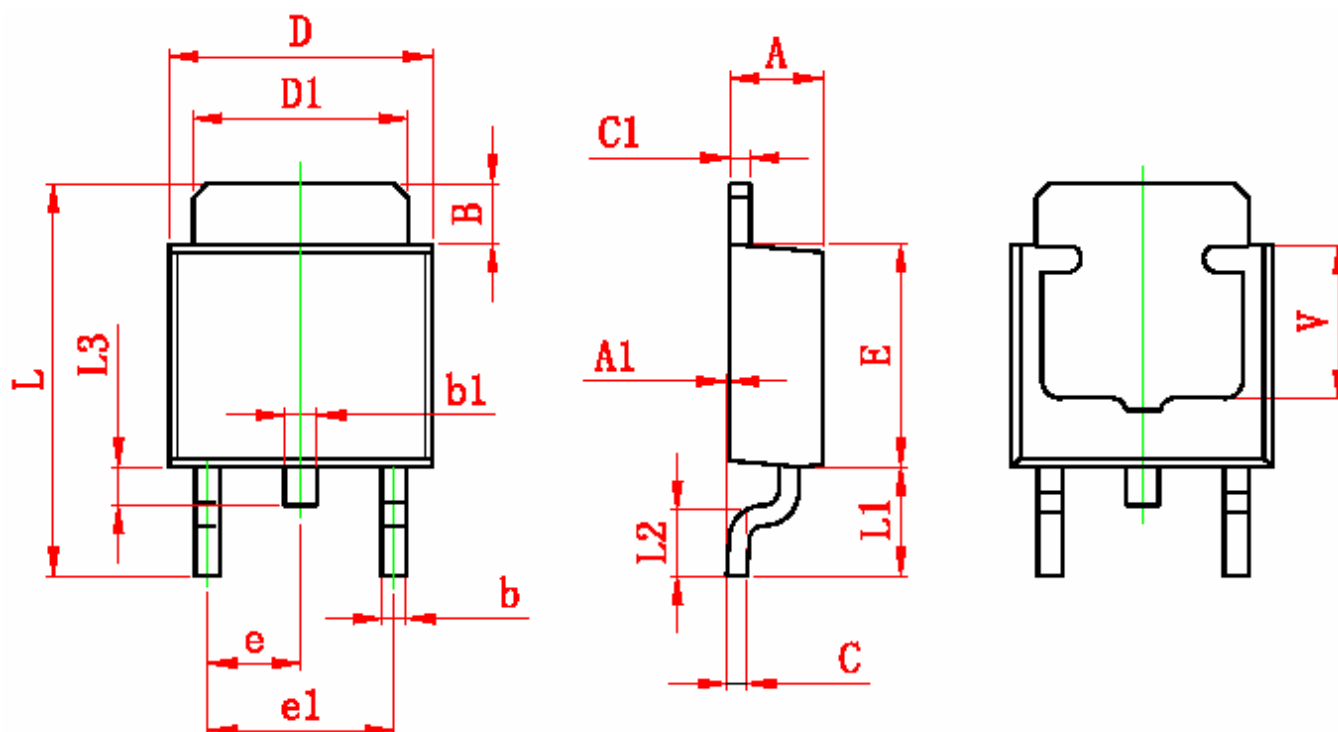




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### TO-252-2L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390
L1	2.550	2.900	0.100	0.114
L2	1.400	1.780	0.055	0.070
L3	0.600	0.900	0.024	0.035
V	3.800 REF.		0.150 REF.	



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